

In the Claims:

Please cancel claims 13, 14, 16-18, 20-22, 25-24, 27-33. Please add new claims 41-57.

The claims are as follows:

1. (Previously presented) An electronic device comprising:

a semiconductor chip including an integrated circuit having at least one electrostatic discharge sensitive device; and

a non-semiconductor chip having a substrate formed of an electrically insulating material, positioned in close proximity to said semiconductor chip, said non-semiconductor chip having at least one electrostatic discharge protection device formed on said substrate, said electrostatic discharge protection device electrically connected to said electrostatic discharge sensitive device.

2. (Original) The electronic device of claim 1, wherein said electrostatic discharge sensitive device is selected from the group consisting of transistors, diodes, resistors, capacitors, and inductors.

3. (Original) The electronic device of claim 1, wherein said electrostatic discharge protection device is selected from the group consisting of spark gaps, field emission devices diodes and gated diodes.

4. (Previously presented) An electronic device comprising:

a semiconductor chip including an integrated circuit; and

a non-semiconductor chip having a substrate formed of an electrically insulating material, positioned in close proximity to said semiconductor chip, said non-semiconductor chip having at

least one electrostatic discharge sensitive device formed on said substrate and at least one electrostatic discharge protection device, said electrostatic discharge protection device electrically connected to said electrostatic discharge sensitive device.

5. (Original) The electronic device of claim 4, wherein said electrostatic discharge sensitive device is selected from the group consisting of resistors, capacitors and inductors.

6. (Original) The electronic device of claim 4, wherein said electrostatic discharge protection device is selected from the group consisting of spark gaps, field emission devices, diodes and gated diodes.

7. (Original) The electronic device of claim 4, wherein:

said electrostatic discharge sensitive device is selected from the group consisting of resistors, capacitors and inductors;

said electrostatic discharge protection device is a spark gap; and

said spark gap and at least a portion of said electrostatic discharge sensitive device and are integrally formed.

8. (Previously presented) An electronic device comprising:

a semiconductor chip including an integrated circuit having at least one first electrostatic discharge sensitive device; and

a non-semiconductor chip having a substrate formed of an electrically insulating material, positioned in close proximity to said semiconductor chip, said non-semiconductor chip having at

least one second electrostatic discharge sensitive device and at least one first electrostatic discharge protection device and at least one second electrostatic discharge protection device formed on said substrate, said first electrostatic discharge protection device electrically connected to said first electrostatic discharge sensitive device and said second electrostatic discharge protection device electrically connected to said second electrostatic discharge sensitive device.

9. (Original) The electronic device of claim 8, wherein:

said first electrostatic discharge sensitive device is selected from the group consisting of transistors, diodes, resistors, capacitors, and inductors; and

said second electrostatic discharge sensitive device is selected from the group consisting of resistors, capacitors, and inductors.

10. (Original) The electronic device of claim 8, wherein said first and second electrostatic discharge protection devices is selected from the group consisting of spark gaps, field emission devices, diodes and gated diodes.

11. (Previously presented) The electronic device of claim 8, wherein:

said first electrostatic discharge sensitive device is selected from the group consisting of transistors, diodes, resistors, capacitors, and inductors;

said first electrostatic discharge protection devices is selected from the group consisting of spark gaps, field emission devices, diodes and gated diodes;

said second electrostatic discharge sensitive device is selected from the group consisting of capacitors, resistors and inductors;

said second electrostatic discharge protection device is a spark gap or a field emission device; and

said spark gap, or field emission device, and at least a portion of said second electrostatic discharge sensitive device are integrally formed.

12. (Previously presented) An electronic device comprising:

a dual chip stack comprising:

a semiconductor chip including an integrated circuit having at least one electrostatic discharge sensitive device; and

a non-semiconductor chip having a substrate formed of an electrically insulating material, attached to said semiconductor chip, said non-semiconductor chip having at least one electrostatic discharge protection device formed on said substrate, said electrostatic discharge protection device electrically connected to said electrostatic discharge sensitive device.

13-14 (Canceled)

15. (Previously presented) An electronic device comprising:

a dual chip stack comprising:

a semiconductor chip including an integrated circuit; and

a non-semiconductor chip having a substrate formed of an electrically insulating material, attached to said semiconductor chip, said non-semiconductor chip having at least one

electrostatic discharge sensitive device and at least one electrostatic discharge protection device formed on said substrate, said electrostatic discharge protection device electrically connected to said electrostatic discharge sensitive device.

16-18 (Canceled)

19. (Previously presented) An electronic device comprising:

a dual chip stack comprising:

a semiconductor chip including an integrated circuit having at least one first electrostatic discharge sensitive device; and

a non-semiconductor chip formed of an electrically insulating material, positioned in close proximity to said semiconductor chip, said non-semiconductor chip having at least one second electrostatic discharge sensitive device and at least one first electrostatic discharge protection device and at least one second electrostatic discharge protection device, said first electrostatic discharge protection device electrically connected to said first electrostatic discharge sensitive device and said second electrostatic discharge protection device electrically connected to said second electrostatic discharge sensitive device.

20-22 (Canceled)

23. (Previously presented) An electronic device comprising:

a dual chip stack mounted on a module, said dual chip stack comprising:

a semiconductor chip including an integrated circuit having at least one electrostatic discharge sensitive device; and

a non-semiconductor chip having a substrate formed of an electrically insulating material, attached to said semiconductor chip, said non-semiconductor chip having at least one electrostatic discharge protection device formed on said substrate, said electrostatic discharge protection device electrically connected to said electrostatic discharge sensitive device.

24-25 (Canceled)

26. (Previously presented) An electronic device comprising:

a dual chip stack mounted on a module, said dual chip stack comprising:

a semiconductor chip including an integrated circuit; and

a non-semiconductor chip having a substrate formed of an electrically insulating material, attached to said semiconductor chip, said non-semiconductor chip having at least one electrostatic discharge sensitive device and at least one electrostatic discharge protection device formed on said substrate, said electrostatic discharge protection device electrically connected to said electrostatic discharge sensitive device.

27-40. (Canceled)

41 (New) An electronic device comprising:

an integrated circuit chip comprising a semiconductor substrate and an integrated circuit, said integrated circuit having an electrostatic discharge sensitive device; and

an electrostatic discharge protection chip comprising a non-semiconductor substrate and an electrostatic discharge protection device, said electrostatic discharge protection chip positioned in close proximity to said integrated circuit chip, said electrostatic discharge protection device electrically and directly connected by only metal conductors to said electrostatic discharge sensitive device or only metal conductors and semiconductor devices of said integrated circuit chip.

42. (New) The device of claim 41, wherein said electrostatic discharge protection device is electrically and directly connected to said electrostatic discharge sensitive device through a first I/O pad on said integrated circuit chip, a solder bump and a second I/O pad on said electrostatic discharge protection chip, said solder bump in direct physical contact with said first and second I/O pads.

43. (New) The device of claim 41, wherein said electrostatic discharge protection device is a polysilicon diode.

44. (New) The device of claim 41, wherein said electrostatic discharge protection device is a spark gap.

45. (New) The device of claim 41, wherein said electrostatic discharge protection device is a field emission device.

46. (New) The device of claim 41, wherein said non-semiconductor substrate is a quartz substrate.

47. (New) The device of claim 41, wherein said electrostatic discharge sensitive device is a semiconductor transistor.

48. (New) The device of claim 41, wherein said electrostatic discharge sensitive device is a semiconductor diode.

49. (New) The device of claim 41, wherein said electrostatic discharge protection device comprises:

a first electrically conductive wire directly connected to an I/O pad of said electrostatic discharge protection chip, said first electrically conductive wire having first and second members extending from opposite sides of said first electrically conductive wire, both members terminating in points;

a second electrically conductive wire separated from said point of said first member by a first gap; and

a third electrically conductive wire separated from said point of said second member by a second gap.

50. (New) The device of claim 49, wherein said gap is filled with a gaseous insulating material.

51. (New) The device of claim 49, wherein said gap is filled with an solid insulating material.

52. (New) The device of claim 49, wherein said second electrically conductive wire is connected to a low voltage terminal of a power supply and said third electrically conductive wire is connected to a high voltage terminal of said power supply.

53. (New) The device of claim 41, wherein said electrostatic discharge protection device comprises:

a first electrically conductive wire directly connected to an I/O pad of said electrostatic discharge protection chip, said first electrically conductive wire having first and second members extending from the same side of said first electrically conductive wire, both members terminating in points;

a second electrically conductive wire separated from said point of said first member by a first gap; and

a third electrically conductive wire separated from said point of said second member by a second gap.

said second and third electrically conductive wires separated from one another by a third gap.

54. (New) The device of claim 53, wherein said second electrically conductive wire is connected to a low voltage terminal of a power supply and said third electrically conductive wire is connected to a high voltage terminal of said power supply.

55. (New) The device of claim 53, wherein said gap is filled with a gaseous insulating material.

56. (New) The device of claim 53, wherein said gap is filled with an solid insulating material.

57. (New) The device of claim 53, wherein said second electrically conductive wire is connected to a low voltage terminal of a power supply and said third electrically conductive wire is connected to a high voltage terminal of said power supply.